

## A Brief Summary of EPA Region 8 Programs Assessing Mining Impacts in Colorado

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### Superfund Program Assessment Tools

#### 1. Removal Assessments

Removal Actions are short-term response actions to address releases or threatened releases requiring prompt response. Removal actions are classified as: (1) emergency; (2) time-critical; and (3) non-time critical. Removal responses are generally used to address localized risks such as abandoned drums containing hazardous substances, and contaminated surface soils posing acute risks to human health or the environment.

Removal Assessments are conducted to support decision making and the design of Removal Actions. At mine sites, Removal Assessments are used to evaluate sources of contaminations as well as impacts to human health and the environment through releases to soils and/or surface water. For sites with draining adits, the EPA Removal Program typically collaborates with DRMS to assist in evaluation underground workings and develop of the cleanup approach.

#### 2. Site Assessment

The Site Assessment program conducts studies to evaluate potential or confirmed releases of hazardous substances that may pose a threat to human health or the environment. Once a site has been identified, a Preliminary Assessment is conducted. The PA is designed to distinguish, based on limited data, between sites that pose little or no threat to human health and the environment and those that require further investigation. For those sites where further assessment is needed, a Site Investigation (SI) is conducted. During the SI, environmental and waste samples are collected to determine the hazardous substances present at a site, if these hazardous substances are being released to the environment, and if there is either human or environmental exposures occurring. Site Assessment activities can be carried out by EPA, State, Tribal, or other Federal Agency environmental programs. CDPHE has been awarded a cooperative agreement from the EPA to conduct site assessment activities. At mining sites, the site assessment program would identify draining adits, estimate flow discharging from the adit, and collect water samples of the discharge. Evaluation of underground workings are not typically conducted during a SI.

#### 3. Colorado Mixed Ownership Mine Site Team Overview

Over the past 8 years, the EPA has lead the Colorado Mixed Ownership Mine Site Team that was established to provide a forum for Federal and State agencies, and where appropriate, local interests, to share expertise, leverage unique authorities, combine staffing, and pool financial resources in order investigate and cleanup lands and waters in Colorado impacted by historic mining activities. Mixed ownership mine sites are those watersheds which are comprised of mines located on both private and federal lands, thus no single agency has jurisdiction over the

complete site. The Colorado Mixed Ownership Mine Site Team is comprised of representatives from the EPA, the Colorado Department of Public Health and Environment, the Colorado Department of Reclamation, Mining and Safety, the US Forest Service, the Bureau of Land Management, the Fish and Wildlife Service, and the US Geological Survey. In addition, local governments and non-governmental organizations including Trout Unlimited and local watershed groups have participated in this effort when appropriate. Currently, the Colorado Mixed Ownership Mine Site Team is collaboratively investigating over 15 of these mixed ownership mine sites, and clean-up actions have been initiated at several of the largest dischargers of mine impacted waters including the Pennsylvania Mine (near Keystone, CO) and Chalk Creek (near Buena Vista, CO). The Team also continues to evaluate new sites and coordinate clean-up actions.

### Brownfields Assessments

EPA's Brownfields Program empowers states, communities, and other stakeholders to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields. The term "brownfield site" means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. With the 2002 enactment of the Small Business Liability Relief and Brownfields Revitalization Act (commonly referred to as the "brownfields law"), the definition of brownfields was expanded to explicitly include mine-scarred lands (MSLs).

Issued annually under a series of Requests for Proposals, competitive grants serve as the foundation of EPA's Brownfields Program. These grants support revitalization efforts by funding environmental assessment, cleanup, and job training activities. Two Colorado communities have applied for, and been awarded, Brownfields Assessment grants specifically to address MSL. Summit County (2001) and Ouray County (2004) were awarded grants in the amount of \$250,000 and \$200,000 (respectively) to inventory and conduct Phase I & II environmental assessments of MSLs. The associated reports and maps are primarily screening level, but do include information regarding site conditions at hundreds of claims and mine workings within the Peru Creek (Summit County) and Canyon Creek (Ouray County) Basins. CDPHE also conducts some Phase I & II environmental assessments of MSLs under its Brownfields Program, which is in part funded by EPA CERCLA 128(a) through an EPA cooperative agreement.

Finally, EPA has provided \$200,000 cleanup grants to address MSLs in Colorado at 7 sites that do not have water drainage present. Recipients include:

1. Peanut Mine Inc. (nonprofit) in Crested Butte (2003) for the Peanut Mine;
2. Summit County (2004) for the Shoe Basin Mine.
3. Mineral County Fairgrounds (2004) and Lower Willow Creek Restoration Company (2015) for the Creede floodplain;
4. Boulder County (2006) for the Argo Mine;
5. San Juan County (2006) for the former Rose-Walsh Smelter site in Silverton;
6. Town of Jamestown (2008) for Elysian Park;

## Clean Water Act Assessments

### 1. CWA water quality assessments

The Clean Water Act provides for the monitoring and assessment of the condition of surface waters throughout the United States. Within Colorado, monitoring and assessment of rivers and streams in the past decade and plus years has provided a good picture of the water quality condition throughout the state and has identified the primary pollutants. Heavy metal pollutants from hardrock mining sources have been well identified.

The current list of impaired waters that require TMDLs (303(d)-listed waters), completed TMDLs, and Colorado water quality assessments can be found at:

<https://www.colorado.gov/pacific/cdphe/impaired-waters>

<https://www.colorado.gov/pacific/sites/default/files/Regulation-93.pdf> (303(d)-list)

Additional information on monitoring and assessment can be found at:

<https://www.colorado.gov/pacific/cdphe/clean-water-rivers-lakes-and-streams>

### 2. CWA 319 / Nonpoint-source.

The State's priority for implementing the 319 is abandoned mines. CDPHE funds a few abandoned mine projects per year with 319, mostly waste-rock/tailings consolidation projects or runoff management. Many of the projects are carried out by DRMS. 319 focuses on the nonpoint source aspect of the remediation, generally not the point sources. Also, in site-specific cases, CDPHE and DRMS may decide that a particular project needs some liability protection. If this is the case, they will propose that the project be done as a removal action. A Removal Action Memo is prepared and signed by EPA, CDPHE, and DRMS. The 319 program has supported assessment and planning work for particular mining complexes, which would include both point and nonpoint sources. The assessment work that the 319 program is likely incorporated into statewide inventories.